

REMARKS

Applicant has carefully reviewed and considered the Examiner's Action mailed September 30, 2008. Reconsideration is respectfully requested in view of the foregoing amendments and the comments set forth below.

By this Amendment, claims 4 and 8 are rewritten in independent form to include the subject matter of claims 1 and 3, claims 1-3 are canceled, and a replacement drawing sheet of Figure 2 labeling the same as PRIOR ART is submitted. Accordingly, claims 4-8 are pending in the instant application.

The Drawings were objected to because Figure 2 was not designated by the legend --Prior Art--. Attached to this Amendment is a Replacement Sheet of Figure 2 showing the legend "PRIOR ART". Accordingly, it is believed that the objection of the drawings is moot and withdrawal of the objection is respectfully requested.

Claims 1-6 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over applicant's admitted prior art (Figure 2) and further in view of U.S. Patent Application Publication No. 2004/0001450 to He. This rejection is traversed.

With respect to claims 4-6, the Examiner acknowledges that applicant's admitted prior FIG. 2 does not disclose the use of low frequency filters in the system, but it is the Examiner's position that the cited reference to He discloses an echo canceller system with a near end input low frequency filters 45, 49 in Fig. 2 and it would have been obvious to include a filter 49 taught by He "after the echo estimate as a matter of design choice, since the pseudo-echo estimate would have be created in the same manner". It is unclear how or if the Examiner is modifying applicant's admitted prior art shown in Fig. 2 of the present application. Applicant's admitted prior art shows one filter section.

Contrary to applicant's admitted prior art, Claim 4 of the claimed invention includes three filter means and the feature "the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters; the echo canceller further comprising a switch control means which detects presence or absence of a second band component on a sending path and a receiving path, the second band component being different from the a first band component that is a conventional telephone band, the echo canceller controlling the removal frequency band of the sending filter means, the pseudo-echo filter means, and the receiving filter means in accordance with a result obtained by the detecting of the second band component," and the conventional telephone band is described as a conventional band (300 to 3400 Hz) in the specification.

The secondary reference to He, in contrast to the claimed invention, describes various signals including a control signal (tone) that is a narrower band signal within a narrow-band signal and an audio signal, as indicated in paragraph 0136 and so on. The system described in the He does not detect a (first) narrow band component that is a conventional telephone band and a (second) band component different from the narrow band component. Therefore, in addition to failing to disclose low frequency filters, He does not disclose the following recited feature of Claim 4: "a second band component on a sending path and a receiving path, wherein the second band component is different from a first band component that is a conventional telephone band. Since in the claimed application, a low band component in a broad band component is not a tone, but is a very low band frequency component in an audio signal, the narrow band signal detection (i.e., call detection) in He cannot be adopted to the claimed invention.

Independent claim 4 of the present application includes the feature “the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters, and the echo canceller controls the removal frequency band of the sending filter means, the pseudo-echo filter means, and the receiving filter means in accordance with a result obtained by the detecting of the second band component.” In contrast to this, in the cited reference to He, the DC notch filters 45, 49 are provided only for the purpose of removing the DC component, for example, as described in paragraphs 0044 and 0052 and Fig. 2. The DC notch filters 45, 49 are not variable filters for removing variable components based on types of the received signals (e.g., a broad band signal or a narrow band signal), but are fixed filters for removing a fixed component, as indicated in paragraphs 0044, 0052 and Fig. 2 of He.

Therefore, the cited reference to He does not disclose the following feature of Claim 4 of the present application: “the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters, and the echo canceller controls the removal frequency band of the sending filter means, the pseudo-echo filter means, and the receiving filter means in accordance with a result obtained by the detecting of the second band component.” Accordingly, it is submitted that even if combined, Applicant’s claimed invention would not be achieved. Withdrawal of the rejection of claims 4-6 is requested.

Regarding independent Claim 8, it is the Examiner's position that applicant’s admitted prior FIG. 2 discloses an echo canceller system as per applicant’s claim language, however, it does not disclose the use of low frequency filters in the system, and the secondary reference to He discloses an echo canceller system with a near end input

low frequency filters 45, 49 in Fig. 2.

However, like independent claim 4, independent claim 8 of the present application includes the following feature: “the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters, and the echo canceller further comprises a filter characteristics control means for controlling the frequency band to be removed by the sending filter means, the pseudo-echo filter means, and the receiving filter means, in accordance with the tap length specified in the pseudo-echo forming means.” Contrary to the claimed invention, the secondary reference to He discloses a monitor and control unit 30 and non-adaptive filters 31, 35. These are provided for avoiding the wasteful allocating of taps of the adaptive filter for the pure delay portion when a sudden change in an echo line such as a sudden change in hybrid characteristics of a telephone takes place, for example, when the line is switched, and the non-adaptive filters 31, 35 operate as fixed filters, as shown in for example paragraphs 0053-0054, 0204, and so on.

In addition, the recited filter characteristics control means and the low band filter in the claimed invention can remove an offset being normally produced due to a fact that the sending and receiving signals are broad signals band irrespective of echo path. They form a filter normally cutting off a component on the basis of the lower limit calculated from the tap length. As has been said, the claimed invention is irrelevant to a physical change of the echo path, and therefore the claimed invention is different from the system disclosed in the cited reference He. Therefore, the cited reference to He does not disclose the following feature of Claim 8 of the present application: “the sending filter means, the pseudo-echo filter means, and the receiving filter means are variable filters, and the echo

canceller further comprises a filter characteristics control means for controlling the frequency band to be removed by the sending filter means, the pseudo-echo filter means, and the receiving filter means, in accordance with the tap length specified in the pseudo-echo forming means.” Accordingly, it is submitted that even if He were combined with Figure 2 of the present application, Applicant’s claimed invention would not be achieved. Withdrawal of the rejection of claim 8 is requested.

Conclusion

Applicant has fully responded to each matter of substance raised in the Office Action and believes that the case is in condition for allowance. Withdrawal of the rejection and allowance of claims 4-8 of the application is therefore courteously solicited.

It is believed that no fee is due, however, the Director is authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or any paper hereafter filed in this application by this firm) to our Deposit Account No. 22-0261, under Order No. 31869-230505.

Should the Examiner believe that a conference would advance the prosecution of this application, he is encouraged to telephone the undersigned counsel to arrange such a conference.

Respectfully submitted,

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